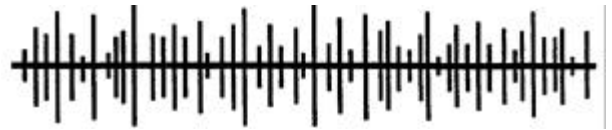


# WHITE NOISE



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## UPFRONT

FPAC, a French Solution. - Part One  
By Chuck Haast, KP4DJT

*[This will be a multi-parted article spanning several months. Chuck has written an interesting article that could be the possible impetus for moving from the ROSE network to using FPAC. There are many facets to consider, so read each part as it is released, and then read the article in its entirety. EDITOR]*

As some of you have heard, in the Tampa Bay area we are implementing a networking solution known as FPAC.

Some have asked why we have taken this path. I will attempt to answer this question and others along with an introduction to FPAC, including its strong points and weak points.

The first question asked of us is "why go to FPAC?"

1. Our network was experiencing failures that were costing us time and patience. Some of our sites are in limited access areas and these failures would go for days on end because of those access limitations.

2. Routing tables were growing to the point of becoming hard to manage. The IBM site alone had 10 routing tables, and the job of handling that site was almost a full time job.

3. Network administration and trouble shooting. The original ROSE code did quite well for low volume low usage sites with only one or two switches, but when our sites grew to the number of

switches at many of our sites, the administration became a nightmare. The lack of link history made it very difficult to trouble shoot a link without long periods of observation.

We looked at other solutions, and at one point we were even contemplating a move to NetRom. We were quite content with the network architecture and the basis for the routing -- X.121 addressing. We looked at the other solutions and found that each had it's own can of worms.

But thanks to the introduction by KB4GBS, Roger here in Tampa to a French visitor who used FPAC, we found FPAC.

FPAC met our requirements and allowed us to correct the problems mentioned above.

1. We have seen no failures of FPAC. There have been RF failures, but the networking code is very stable.

2. Since all the networking is contained in the PC multi-switch, sites now only have one routing table, with the exception to this being the IBM site, because there are two PC's in different parts of the building. But even here we have gone from 10 routing tables to only two. This makes life much easier.

3. Network administration is now much easier such that we can trouble shoot the system with great ease because FPAC collects link histories. I will show screen shots of these screens in this series.

There are also some additional benefits that we are realizing by going to FPAC.

Some of the most outstanding are:

1. KISS TNC;

We are not limited to only those supported by ROSE, or another networking system. FPAC can talk to KISS, KISS CRC, or Polled KISS TNC's. We can use AEA, GLB, Kantronics, MFJ, PacComm, or any other TNC that supports KISS.

2. SCC Cards;

Products such as the DRSI and several other SCC card solutions are available and can be used with FPAC totally eliminating the TNC box from the picture.

3. Single Routing Table per Site; The growing collection of routing tables and the administration of these routing tables has been one of the on going problems with large switch sites. With FPAC, there is only one per PC. Most sites only have one PC.

4. FPAC Alias and NODE callsigns

You may connect to either one, then you can either do switch administration duties, or you can node hop. The ability to node hop has been requested by NetRom users. FPAC now gives this facility to X.121 based networks where there are FPAC sites running. If a routing table has not been updated, a connection to the NODE at the offending address will then let you jump across the offending path and press on. This, of course, requires the presence of the RF path. No amount of node hopping facilities will fix nonexistent RF paths!!!

5. Routing tables are visible to all users. The latest version which we are beta testing has a command that allows you to SEE the routing tables with the primary and secondary paths.

6. Link History;

FPAC gives a very complete link history, something that has been missing in the previous solutions. X1J made an attempt at it, but the information shown is

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still not nearly as complete as that displayed by FPAC. The latest versions will display link activity dynamically on the console, allowing the switch op to see certain errors as they occur.

7. PC adds a box to site; Some have pointed out that you are adding one more box to a switch site, and

indeed this is true if you are using TNC's. If you move to the SCC based option, you will only have your radios and the PC, no TNC's.

8. PC handles data faster;

Another fact we have found to be very true is that these links are faster, for whatever reason the throughput is much greater. A FPAC box is a definite point of connection to say 56kb GRAPES RF Modems, or any other fast RF path that is available.

The lack of speed on the network has been one of the weak points of our whole system, regardless of the solution used, this solution appears to have the speed needed to push us at least into the next generation of data radio systems using spread spectrum.

9. ROSE interoperability;

By following in Tom Moulton's footsteps using X.25 at level three, the networking overhead has been kept down to only 3-5 characters. This overhead problem has been a plague of all of the networking solutions except for the KANode concept which is really just in many ways a simple AX.25 device that allows you to remotely connect to other AX.25 devices. It has no network smarts.

The PID transparency allows for other network interconnection and transport of foreign PID's through the network to the target network to which the PID belongs allowing adjacent networks to connect and pass the data needed for their functioning.

We have found that the site address where a error takes place is not exchanged between ROSE and FPAC, just the error code. The authors are working on this one. If you are connected to a distant ROSE switch application and issue a 'B'ye command, you get the EOT back from the ROSE switch but there is no disconnect. This is also being looked at.

We have found that these are minor inconveniences compared to the problems we had keeping the network running.

The fact that FPAC runs without crashing under heavy traffic loads and when network failures do occur has greatly reduced our work load in the bay area. We are now dedicating time to making the network grow again. Also looking at adding new facilities to draw users back to this mode of operation.

Part Two will be next month.

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**FROM DAYTON HAMFEST**

Terry Taylor W5JFM



The Dayton AMSAT "Get Together" Friday night was an evening enjoyed by all. Standing and talking is Keith Baker, KB1SF, Executive Vice President, making his remarks concerning present and upcoming activities. Facing the camera on the left is Barry Baines, WD4ASW, Vice President, Field Operations. Subjects discussed were the upcoming launch of Phase 3D, and the ongoing activities with SAREX. The buffet food was outstanding and enjoyable by all. Several hams getting started in satellite activities were rubbing elbows with the movers and shakers of the amateur satellite group.

**The Hassle and the Hustle** *Photo by W5JFM*

Bill Manley KB4XE

Owning and operating a personal computer can be an exercise in frustration. This short story describes an actual event which confronted me, and can confront you as a packeteer, although it is not ham radio specific.

Last September I bought a new computer. I selected a popular computer and parts software vendor whose store was right here in Coral Springs, Fl. I had dealt with him in the past, he sponsors the hamfests, has competitive prices, and his over-the-counter sales personnel seemed knowledgeable (or at least they talked a good story). The purchase was accompanied with a 1 year parts and 2 year labor warranty.

### THE HASSLE BEGINS

I soon discovered that the included modem had a timing bug. The issue is openly discussed on the modem manufacturer's home page. By phone the manufacturer agreed to replace the modem, but charged me \$25.00 to cover the shipping for a "hot swap".

After two months, the computer and replacement modem began to malfunction intermittently. Now the manufacturer customer service explains that, after 4 to 6 months, Win95 develops a bug whereupon it suddenly develops a conflict with COM2. He recommends that I restrap the modem to COM3 IRQ 5. "That will correct the problem."

But it didn't.

With numerous phone calls, he continues to insist that the modem is good and the problem is with the computer or its software. He is very persuasive

### THE HUSTLE

I returned the computer to the "popular vendor" with written commentary concerning the dealings with the modem vendor and additionally described computer lockups and other anomalies.

Following up by phone the following week revealed that his service department was not even aware that the computer was there for repair. I conveyed a sense of urgency. Subsequent calls disclosed an increased sense of his awareness.

Finally day the technician announced that the total problem is laid upon the modem. He replaced it and "the computer now works perfectly". When I returned to pick up the computer, it became evident that the technician never read my letter describing the lock up and other problems with the computer, nor did he trouble shoot them.

He summoned the manager of the "popular vendor" company who was critical of my dealings with the modem manufacturer as opposed to having returned the computer to him directly. That made it awkward for him to replace the modem under those circumstances. That didn't not seem to me to be unreasonable and so I agreed that he should remove the new modem and return the bad one, but how about the other problems?

He argued that they were all attributable to the bad modem. I questioned his concept of "all" since they had not read my letter until I arrived to pick up the computer. He was unswayed by my logic and then HE HUSTLED ME TO PAY FOR THE 5 HOURS SERVICE.

It took him 5 hours to discover what I had disclosed in my letter?.

"Give me my computer, and its bad modem, and you will never see me again" settled the conflict.

I am back where I started with the intermittent modem and a erratic computer.

So much for the "popular computer vendor" and his worthless 2 year labor warranty.

**THE HASSLE CONTINUES**

Reopening the phone dialogue with the modem manufacturer CS representative re-entrenched him in the conviction that the problem was with Win95 and my computer and his modem could not be faulty. After all, he “carefully checks his product before offering it as a hot swap.”

Also, since I already had two modems, and he was “not going to provide any more!”

He was unswayed when I reminded him of his written 5-year warranty, that he admitted the defect in the first modem, and the fact that this modem had problems while a test, substituting another, worked perfectly.

He was adamant, until I insisted in speaking with a manager. “...none are available” didn’t placate me. After further rhetoric (this was a 4 hour phone call!), he condescended to providing a third modem.

The third modem has been received and is installed. This time I had to cover the expense of returning the bad modem myself.

It works just fine.

The computer still hangs periodically.

Guess I must trouble-shoot that myself.

Corrupted software?

Bad motherboard?

We’ll see.

**MINUTES PBPG JULY 10, 1997**

Meeting called to order at 7:35 PM . 14 members

present.

**Introductions**

Card signing for John Wilson (KN4HX). John is in the hospital for back surgery.

The Treasurer's report normally would come next, but was delayed till Old Business discussion.

Technical committee report was delivered by our President WB4KGY (Doug). A software problem had developed due possibly to lightning strike in the area. The old call sign resides in the EPROM and presented itself on the HEARD list along with the new one. WB4MOZ reloaded 561655 TNC remotely from home. Yesterday’s storm and accompanying lightning tripped the circuit breaker. All equipment except the APRS final P.A. continued to operate powered by the backup batteries. The APRS P.A. is not powered in battery (operation) mode.

Next we had a report from Terry Taylor (W5JFM) on the Dayton Hamfest with some interesting stories about the Saturday night HamVention dinner. One piece of equipment that particularly caught his attention at the show was a computer controlled receiver called 'KACHINA'.

It was now time for 'Old Business' and our new Treasurer, Marvin Kaskawits (KD2CK) gave his report along with 'revue' chairman Mike Michaels (K2GPI). A Quicken 6.0 program has been purchased by Marvin to document all future transactions. In addition to that the 'committee' (Henry Felton W4UJ and Mike Michaels) worked with Marvin to restore records dating from January 1st 1997 into 'Quicken'.

Also under Old Business, a Packet radio book purchase program has been started by our secretary BillyBob KE4GUM to place into a lending library for members. A correction to the published minutes was made (page 6...should read...15 members

present). New Rose Switch, NODES list were presented for handout along with copies of White Noise for those that may not have received theirs. The past week-end was used for the 'FIELD DAY' annual exercise and the West Palm Beach Radio Club (W4HAW) was congratulated for the excellent job that it did.

It was announced that should an emergency (i.e. Hurricane or Tropical storm) occur the EOC would be closed to club meetings. Contact a club officer if in doubt. Doug solicited members to bring a friend to our meetings and also suggested if any member would like to 'get involved' any and all help would be appreciated. An announcement was made regarding the BARDS meeting schedule and members were encouraged to join FADCA and also reminded to check the address page of their White Noise to see when their annual dues payments are due.

The date of the next meeting was announced ... AUGUST 14 7:30PM at PB County EOC. This concluded the business portion of the meeting and a break was announced while the Technical Session was being prepared.

Doug made the Technical presentation on Satellite Packet activity and handed out data sheets showing frequencies for up and down links. He commented that the latest information may be downloaded from the BBS at WB4MOZ.